

REMARKS

Withdrawn Claims and Cancelled Claims

Claims 21-57 have been withdrawn from consideration as being drawn to a non-elected species of the invention. The Applicant has cancelled claims 49-57 without prejudice for possible submission in a continuing application. The Applicant has chosen to maintain the remainder of the withdrawn claims in the pending application for possible reinstatement upon the allowance of one or more generic base claims.

Claim Rejections - 35 USC §112

Claims 1-20 and 58 have been rejected under 35 USC §112, second paragraph, as being indefinite. On page 2 of the Office Action, in order to address the rejection of claims 1-20 and 58 as being indefinite, the Examiner invited the Applicant to amend independent claim 1 to recite that the upper and lower engaging surfaces are defined by the thickness of the spacer walls. The Applicant has incorporated such amendment into independent claim 1 to address the rejection of claims 1-20 and 58 as being indefinite. Accordingly, withdrawal of the rejection on claim 1-20 and 58 under 35 USC §112, second paragraph is respectfully requested.

Claim Rejections – 35 USC §102 and 103

Claims 1-6, 10, 17-20 and 58 were rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,609,635 to Michelson (hereafter “the ‘635 patent”). Additionally, claims 7-9 and 10-14 were rejected under 35 U.S.C. §103(a) as being unpatentable over the ‘635 reference in view of U.S. Patent No. 5,366,875 to Wozney et al. (hereafter “the ‘875 patent”) and U.S. Patent No. 5,514,180 to Heggeness (hereafter “the ‘180 patent”). Further, claims 14 and 15 were rejected under 35 U.S.C. §103(a) as being unpatentable over the ‘635 reference in view of U.S. Patent No. 4,703,108 to Silver et al. (hereafter “the ‘108 patent”).

It is well established that “an invention is anticipated if the same device, including all the claim limitations, is shown in a single prior art reference. Every element of the claimed

invention must be literally present, arranged as in the claim.” Richardson v. Suzuki Motor Co. Ltd., 9 USPQ.2d 1913, 1920 (Fed. Cir. 1989).

As amended, independent claim 1 now recites an anterior wall having a convexly curved anterior surface, a posterior wall having a flat posterior surface, and two lateral walls integrally connected between the anterior and posterior walls to define a chamber, with the walls further defining a superior vertebral engaging face defined by a thickness of the walls and extending about a first opening defined by the chamber and with the walls extending about and defining the first opening, and an opposite inferior vertebral engaging face defined by the thickness of the walls and extending about a second opening defined by the chamber and with the walls extending about and defining the second opening.

On page 3 of the Office Action, an assertion is made in support of the rejection of independent claim 1 as being anticipated by the ‘635 patent that “[c]ontrary to applicant’s arguments, the claims are not limited to the interpretation that the openings are clearly defined by the walls of the implant.” The Applicant submits that independent claim 1, as amended, now clearly recites that the anterior, posterior and lateral walls of the spacer define superior and inferior vertebral engaging faces that are defined by a thickness of the walls and which extend about first and second openings of an inner chamber, and that the walls extend about and define the first and second openings of the inner chamber.

The amendments incorporated into independent claim 1 are submitted to distinguish over the ‘635 patent and all other patent references of record. Specifically, the ‘635 patent discloses a number of small bone growth openings extending through the superior and inferior surfaces of the implant. However, the superior and inferior surfaces which engage the adjacent vertebrae are not “defined by a thickness” of the anterior, posterior and lateral walls of the implant. Moreover, neither the superior and inferior surfaces, nor the implant walls, extend about upper and lower openings that are defined by the inner chamber, nor do the anterior, posterior and lateral walls of the implant disclosed in the ‘635 patent define such first and second openings which are bound by superior and inferior vertebral engaging faces that are defined by a thickness of the walls.

As shown in Figure 2 of the '635 patent, the openings 115 of the implant 100 extend through the upper and lower support surfaces 112, 114. Additionally, the '635 patent states that "[t]he upper and lower surfaces 112 and 114 have an interior surface which form a support structure for bearing against the endplates of the adjacent vertebrae between which the implant 100 is inserted." (Column 6, lines 26-29). The plurality of openings 115 in turn pass through the upper and lower support surfaces 112, 114 and into the hollow chamber 116. The Applicant submits that the '635 patent fails to teach or suggest that a thickness of the walls of the implant 100 define superior and inferior vertebral engaging faces, and that the first and second openings are defined by the walls of the implant. Instead, the upper and lower support surfaces 112, 114 of the implant 100 each define a plurality of openings in communication with the hollow chamber 116. However, the openings 115 are not defined by the walls of the implant 100, as recited in amended independent claim 1.

The open spacer configuration recited in independent claim 1 is shown, for example, in Figures 1-3 of the subject application, with the walls 11, 15, 20 and 21 of the spacer 10 defining superior and inferior vertebral engaging faces 35, 40 that are defined by a thickness of the walls which extend about the upper and lower openings 36, 41 defined by the inner chamber 30, and with the spacer walls 11, 15, 20 and 21 extending about and defining the upper and lower openings 36, 41. One advantage provided by the open spacer configuration recited in independent claim 1 is the development of a contiguous/solid bone mass growth between the adjacent vertebra. (See page 3, lines 22-25 of the application). The open spacer configuration recited in independent claim 1 is distinguishable from the implant configuration disclosed in the '635 patent which teaches providing a plurality of openings extending through upper and lower support surfaces 112, 114. Indeed, the openings 115 are not defined by the walls of the implant, nor are the upper and lower support surfaces 112, 114 defined by a thickness of the walls which extend about the openings 115.

Accordingly, independent claim 1, as now amended, is submitted to be patentable over the '635 patent or any other reference of record, whether considered alone or in combination. Dependent claims 2-20 depend from amended independent claim 1 and are submitted to be patentable for at least the reasons supporting the patentability of independent base claim 1.

Additionally, dependent claim 58 has been rewritten in independent form, and includes the amendments set forth above with regard to independent claim 1 that address the rejection of independent claim 1 under 35 USC §112, second paragraph. Furthermore, original dependent claim 58 (and rewritten independent claim 58) recites that “said anterior and posterior walls are formed integral with said lateral walls to define a single piece spacer.” On page 4 of the Office Action, the grounds for rejection of claim 58 are that “[c]laim 58 fails to distinguish over the spacer of Michelson.” However, as shown in Figures 1 and 5 of the ‘635 patent, the posterior wall of the implant 100 comprises a slidable door 134 to provide a large opening for loading fusion promoting material into the inner fusion chamber. The slidable door 134 is not “formed integral with” the side walls of the implant, nor is the resulting implant 100 a “single piece implant”, as recited in original dependent claim 58 and rewritten independent claim 58. Accordingly, rewritten independent claim 58 is submitted to be patentable over the ‘635 patent and any other patent reference of record, whether considered alone or in combination with one another.

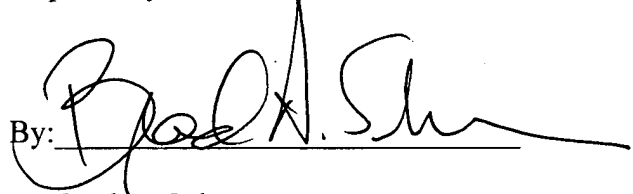
If the rejection of claim 58 is maintained, the Applicant respectfully requests an explanation as to the grounds of rejection regarding the recitation set forth in rewritten independent claim 58 that “said anterior and posterior walls are formed integral with said lateral walls to define a single piece spacer.”

CONCLUSION

In view of the foregoing amendments and remarks, it is respectfully submitted that the Applicant's application is now in condition for allowance with pending claims 1-20 and 58.

Reconsideration of the subject application is respectfully requested. Timely action towards a Notice of Allowability is hereby solicited. The Examiner is encouraged to contact the undersigned by telephone to resolve any outstanding matters concerning the subject application.

Respectfully submitted,

By: 

Brad A. Schepers
Reg. No. 45,431
Krieg DeVault LLP
One Indiana Square, Suite 2800
Indianapolis, Indiana 46204-2079
(317) 238-6334 (voice)
(317) 238-6371 (facsimile)